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ABSTRACT

The author conducted two studies of disturbed adolescents in an effort to specify the precursors of severe psychopathology in adulthood, particularly the schizophrenic spectrum of disorders. In the prospective study 35 disturbed adolescents were followed for a five-year period from age 16 to 21. Numerous measures were taken on the target adolescent as well as the family interaction patterns of his primary family group. Two criteria emerged as being particularly valuable in identifying the high risk adolescent: first, the perceived quality of relationships among primary family members and, second, the degree of bizarreness manifested in the adolescent psychopathology of the target child. In an attempt to follow up certain leads in these prospective data, a retrospective study was conducted using a sample of young adult schizophrenics whose parents were available as informants. The schizophrenics were also divided into good and poor premorbid based on a scale focused upon late adolescent patterns. The major finding in this study was that the descriptions of the adolescent behavior patterns of good and poor premorbids were very different and each resembled one of the prospective study's contrasting adolescent problem groups. (Author/SES)

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FACTORS OBSERVED DURING ADOLESCENCE WHICH ANTICIPATE THE DEGREE OF PSYCHOPATHOLOGY AND SOCIAL COMPETENCE SEEN IN EARLY ADULTHOOD[1]

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As this symposium suggests, there is increasing interest in specifying the precursors of severe psychopathology in adulthood, particularly the schizophrenic spectrum of disorders. One may begin a prospective, high risk study at any point in a person's life and the period chosen is a function of theoretical, empirical and practical considerations, not the least of which is the investigators age at the time of inception of the study. So, my colleague Eliot Rodnick and myself decided to leave the high risk studies of infants and preschoolers to other younger men, who might be around to appreciate their follow-up data and decided to choose as our target sample, disturbed adolescents. This developmental period was not chosen purely for personal reasons but also for theoretical ones. First, this is the age range immediately prior to the period of highest risk for schizophrenia (20-30). Second, adolescence is a critical developmental period for identity formation and individuals faltering at this point are not likely to succeed at subsequent developmental tasks of early adulthood. And thirdly, there is evidence from research on schizophrenia that important differences in pre-illness adjustment are clearly evident during this period which possess significant prognostic implications. I am referring to the results of studies using the Phillips' Scale of Premorbid Adjustment or allied indices.

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[1]This paper was read at the 1972 meetings of the American Psychological Association, Honolulu, Hawaii, at a Symposium entitled ""Research on Children at High Risk for Schizophrenia."

In our prospective study, we have followed a cohort of 35 disturbed adolescents for a five-year period from age 16 through 21. Another 35 remain to be followed up over the next few years. Obviously, this first sample is not into the period of HigHest risk for severe psychopathology, but they are far enough along to determine how adequately they are approaching the problem of entering adulthood.

In our study, numerous measures were taken on the target adolescent as well as the family interaction patterns of his primary family group. Our focus has been two-fold, first, to identify family interaction patterns correlated with subsequent psychopathology of a schizophreniform variety and secondly, to identify aspects of behavioral disturbance in adolescence which relate to this pattern of adult psychopathology. It may be that the two are so linked that either one is as useful as the other to identify the child vulnerable for schizophrenia. However, we have hedged our bets on this issue as it may prove more effective to identify high risk children on the basis of familial patterns than on manifest psychopathology. While there is still some evidence from our findings to date that the two are somewhat correlated, we continue to have an open mind about the relative utility of either criteria for selecting vulnerable children.

In the present paper, I shall present data of two levels regarding antecedents of severe adult psychopathology, one from our prospective study and the other from a retrospective study carried out to check leads from the former.

Four to Five Year Follow-up of High Risk Adolescents.

In the first 35 cases in this study, 25 were male. Our first follow-up study was carried out on a homogenous male population to eliminate interactions better handled in our larger sample which is equally balanced as to sex. In the follow-up study, parents of the target adolescent were contacted and interviewed-first using an extensive form covering various areas of psychopathology and social competence.

Then, where possible the young adult was seen and administered a detailed clinical interview as well as a battery of psychological tests including the MMPI, and a brief three card version of the Rorschach (Zulliger Test). While 24 of 25 parents were seen (one had recently lost a son in a car accident and asked that the interview be postponed), only 17 of the sons were seen personally.

Not all of the data from the first follow-up study have been analyzed as yet, but a good portion was utilized by Dr. Frederick H. Jones in his recent Ph.D. dissertation. I shall rely heavily on Jones' dissertation data in this portion of the paper. He analyzed the interview with the parents by forming social competence clusters on a statistical basis and by deriving ratings of global functioning from a summary of the data for each of these clusers presented as a vignette for raters. These global ratings were made on a three category scale of outcome which is presented below in Table 1.

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Insert Table 1 about here

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It should be pointed out that category 1, basically positive adjustment, is not a high level of social adjustment, but represents a minimal level of functioning at age 21. In an effort to estimate the validity of these outcome ratings derived from parental reports, Jones related them to a similar 3-point scale used to rate automated interpretations of the MMPI. The correlations between the two sets of ratings was .53 for 17 cases, and .74 when two cases currently on major tranquilizers at the time of testing (Stelazine and Lithium) whose test profiles were sharply attenuated were dropped. Thus, the parental reports of global functioning and ratings of severity of psychopathology based on the young adult's self-report correlate reasonably well to permit confidence in analyses based upon the latter for which the larger N is available.

Relationship Between Four-fold Grouping in Adolescence and Outcome Groups in Early Adulthood.

In our early work on this project, the total sample of disturbed adolescents were divided into four groups based upon their presenting problems. These groups were (1) Aggressive Anti-Social, (2) Active Family Conflict, (3) Passive Negative, (4) Withdrawn-Socially Isolated. The definition of each group is contained in our original paper on this project (Goldstein et al., 1968). We then wished to see whether these groupings, based upon the style, but not necessarily the severity of presenting problem, related to this outcome criteria. In Table 2 we see the frequency of cases in each of the four groups who fall in each of the three outcome

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Insert Table 2 about here

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categories. Two things are clear, first, that withdrawn-socially isolated teenagers look most disturbed and socially incompetent as young adults. There is no case in this sample rated as a one on our outcome scale. Second, Group 3, the passive negative sample, appear functioning best as a total group. Groups 1 and 2, the highly active groups, are more varied in their early adult adjustment, with the active family conflict group looking slightly worse than the aggressive antisocial group. Severely disturbed young adults appear equally often from both groups, although the nature of their psychopathology varies greatly. In the active family conflict group, the problems appear severely neurotic or schizoid, while the aggressive-anti-social cases resemble character disorders.

Relationship Between Initial Interview Perceptions of the Teenager and Outcome Ratings.

At the time of the original contact with the adolescent and his family, all three members of the family received a detailed interview concerning eight areas of functioning of the adolescent as well as the general emotional climate of the family.

The parental data were combined by Fred Jones and analyzed statistically to yield a series of social competence factors. These factors were then correlated by Jones with the three level outcome criterion. The correlations are presented in Table 3 below, broken down into areas of Familial factors (Behavior of the teenager with

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Insert Table 3 about here

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family members and visa versa), Social Competence of the Teenager in the external world and a few residual factors. The correlations in Table 3 indicate that only the factors descriptive of family relationships are predictive of psychopathology and social competence at age 21. These factors which possess continuity with many of the outcome criteria, school achievement, dating, friendship patterns, ambition, etc. do not. This suggests considerable variation in these aspects of social functioning over this five-year period.

If we examine the two familial factors which correlated with the outcome criteria, we see that they are termed constructive relationships within the family and responsibility/autonomy struggles and family balance. In the first case a high score, that is a score predictive of poor adjustment suggests that five years earlier the teenager son was described by his parents as dishonest with them, irresponsible, not careful about other family member's feelings, unable to, or desirous of following parental advise and hostile relations with siblings. In other words, a tumultuous and rebellious adolescent, difficult to control and relate to, who is struggling for complete autonomy from the family. The second factor is a complex one but the highest factor loadings occur for items descriptive of the general family tone; how close, affectionate and involved the family members are with each other. Distant and unaffectionate relationships predict a poor outcome five years later, regardless of the style of the adolescent's presenting problems, indicating that aspects of the

familial environment are significant criteria for identifying the high risk adolescent.

In the light of the predictive value of measures of heterosexual adequacy for outcome in schizophrenia, the failure of the traditional criteria of social competence is surprising. Possibly, we were not far enough into adolescence at the time of the original interview for these criteria to possess predictive value. Our finding contradicts the basic assumption of using social competence as a predictor, namely that the best index of how someone will do in the adult world is the level of adequacy they were able to achieve in that context in the past. In contrast, those variables that do predict outcome are those reflecting the degree of constructiveness and "maturity" that the teenager was able to achieve in his primary socializing environment of one family. It appears that when family culture prepares the child for adulthood, the child can master certain of the basic peer culture skills to an extent that makes him look, according to social competence criteria with peers, more adequately adjusted than he, in fact, is.

Relationship Between Ratings of Severity of Pathology in Adolescence and Those in Young Adulthood

Having considered the predictive power of the style of adolescence psychopathology, we also wished to estimate the predictive value of the severity of the presenting complaint in adolescence in anticipating the severity of early adult psychopathology. To get ratings of severity, each intake statement recorded in adolescence was rated on a three-point scale. The largest body of cases (N=15) fell into Category 1, characterized by mixed problems of moderate severity. Category 2 referred to acting out behavior of a chronic nature which did not possess any bizarre qualities. Category 3, extreme and bizarre behavior covering such things as extreme anxiety reactions to the stress of everyday living, extreme feelings of inadequacy such that suicide was a serious consideration -- marked

problems in heterosexual adjustment to the point of bizarre sex role identity or gross deficits in maturity.

The relationship between the levels of severity and the three levels of maladjustment in early adulthood are presented in Table 4 below. Here we see the relationship to both the MMPI ratings of maladjustment and those based upon the respondents' interview. The boxes at each side of the page present the number of

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Insert Table 4 about here

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cases in each of these criterion categories. The boxes in the middle, the number of cases in each of severity categories, and the lines leading from the middle boxes indicate how many cases in each of the three adolescent categories fell into each of the early adult severity categories. We can see that the group rated as mixed problems of moderate intensity, the largest single group in the sample, are rated as average or above in adjustment as young adults whether we use the respondents' report or MMPI analysis. Only 1 case out of 15 is placed in Category 3, the most severe adult pathology group. In the second adolescent category, Negative acting out, the outcomes are also mixed or positive in nature. This small group appears to be doing far better as adults than we would have expected from their anti-social acting out as teenagers.

The majority of the severely negative outcomes, 4/6 come from the group of most severely disturbed teenagers, classified as negative and bizarre on the basis of adolescent psychopathology. They reveal as young adults many signs of schizoid pathology, and contain those cases who have been diagnosed schizophrenic. In addition all received partial or whole diagnoses of schizophrenia on the basis of the automated MMPI report. These cases show considerable continuity across a five-year period in the severity of their psychopathological behavior, despite the fact

that they varied enormously among themselves in the traditional criteria of social competence. There appears to be a dimension of severity of psychopathology in adolescence which is at least partially independent of the traditional community criteria of social attainment and which is more predictive of adult adjustment than the latter set of variables.

Based upon the data collected so far in our project, two criteria seem particularly valuable in identifying the high risk adolescence. First, the perceived quality of relationships among primary family members (particularly the closeness or distance, degree of affection, and the constructiveness of relationships between the teenager and his parents). Second, is the degree of bizarreness manifested in the adolescent psychopathology of the target child. Each of these measures appears to reflect the teenagers adequacy in coping with the problems of separation from family relationships. It appears that bizarre reactions are a measure of the degree of frustration experienced by the adolescent in attempting this separation from the family system. It is surprising that these indices, rather than the traditional social competence do so reasonably well as predictors. The family system, the most significant area for learning a sense of adequacy and identity appears to be the most sensitive context in which to measure the adequacy of this phase of self-differentiation.

Retrospective Study

In an attempt to follow-up certain leads in these prospective data, particularly those relating problems in adolescence with those of early adulthood, a retrospective study was carried out using a sample of young adult schizophrenics whose parents were available as informants. These informants were administered an expanded version of the same interview used with the parents of the teenagers in the previous study, except that in the schizophrenic study, the parents were asked to describe the adolescence of these young adult schizophrenics. The sample of young adult schizo-

phrenics were further divided into good and poor premorbid based upon a scale focused upon late adolescent patterns to determine whether distinctive adolescent behavior patterns could be found in these two groups. The major finding in this study was that the descriptions of the adolescent behavior patterns of good and poor premorbids were indeed very different and each resembled one of our contrasting adolescent problem groups. These findings are presented in Table 5. Here we see

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Insert Table 5 about here

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that the adolescent pattern of our good premorbid schizophrenic is described as impulsive, defiant of parents' wishes, poor achievement motivation, good confidence and initiative with friends, active response to parental frustration, highly active dating pattern, acting out, but primarily within the home and few signs of severe psychopathology.

The poors, on the other hand, are characterized as withdrawn, conscientious in school with low drive outside, lacking confidence with friends, passive response to frustration, no confidence with the opposite sex or active dating, acting out within the home and numerous signs of anxiety, depression, severe sleep disturbances and marked response to parental criticism.

If we relate these patterns to the four-fold grouping of the adolescent study, the resemblance between the pattern reported for the good premorbid and the active family conflict, and the poor premorbid and the withdrawn socially-isolated, are striking. We know further, that the withdrawn socially-isolated adolescent has a high probability of severe maladjustment as a young adult, so the prospective and retrospective data are consistent for this group. The data for the active family conflict group are less consistent. We know from the prospective study that some, but not all, members of

this group reveal severe psychopathology as young adults, particularly of the schizophrenic variety. But, there is also a small number of aggressive anti-social adolescents who share this outcome, so the good premorbid pattern is not perfectly correlated with the active family conflict pattern. Possibly, and there is some evidence emerging on this point, one of these adolescent groups (aggressive-anti-social) is more likely to end up as paranoid schizophrenics and the other non-paranoid schizophrenics with a good premorbid history.

The continued interweaving of prospective high risk studies with selected retrospective studies will continue to enrich our understanding of the developmental antecedents of schizophrenic and other severe psychopathological conditions.

TABLE 1

DEFINITIONS OF OUTCOME CATEGORIES*

CATEGORY 1: Basically Positive:

Strong signs currently in spite of an occasionally rocky history. The subject exhibits meaningful goal-directed behavior and/or is paying his own way (unless in school). No heavy drug use currently. Marked improvement if problems used to be severe.

CATEGORY 2: Mixed:

Some marked strengths in conjunction with large areas of inadequate functioning or a generally mediocre record of drifting, dependency, spotty achievement and frequent failure. Often life style is erratic with poorly formulated plans and goals. Achievement efforts and hard work tend not to be sustained. Dependency and irresponsibility in relation to parents and authority figures are common. Signs of rather marked psychopathology within a context of rather limited strengths are common such as problems with drugs and the law, an inability to relate to people, and areas of gross immaturity.

CATEGORY 3: Basically Negative:

Signs of major psychological impairment with few strengths. No realistic ambitions or goal-directed efforts and poor or unrealistic planning. Life style is very erratic with few lasting or meaningful relationships. Major interpersonal problems with friends, girls, parents and employers are common. Dependency and "n'er to well" behavior is common. Chronically maladaptive means of coping with stress and external demands such as lying, stealing or cheating are common. Grossly infantile behavior is often noted. Signs of overt or incipient mental illness are sometimes reported as current severe problems with drugs and the law (shooting-up).

*Taken from Jones, F. A four-year follow-up of vulnerable adolescents, Ph.D. Dissertation, UCLA, 1972.

Paper presented by Michael J. Goldstein, Ph.D., UCLA, at APA, Honolulu, Hawaii, 1972.

TABLE 2

DISTRIBUTION OF SUBJECTS BY MODAL OUTCOME CRITERION RATING OF "THUMBNAIL SKETCHES" FROM THE FOLLOW-UP INTERVIEW*

		GROUPS			
		1	2	3	4
OUTCOME RATING	1	2	1	3	--
	2	1	2	5	4
	3	2	2	--	2
	n	5	5	8	6

*Taken from Jones, F. A four-year follow-up of vulnerable adolescents, Ph.D. Dissertation, UCLA, 1972

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TABLE 3

CORRELATIONS OF INITIAL INTERVIEW CLUSTERS WITH OUTCOME RATINGS*

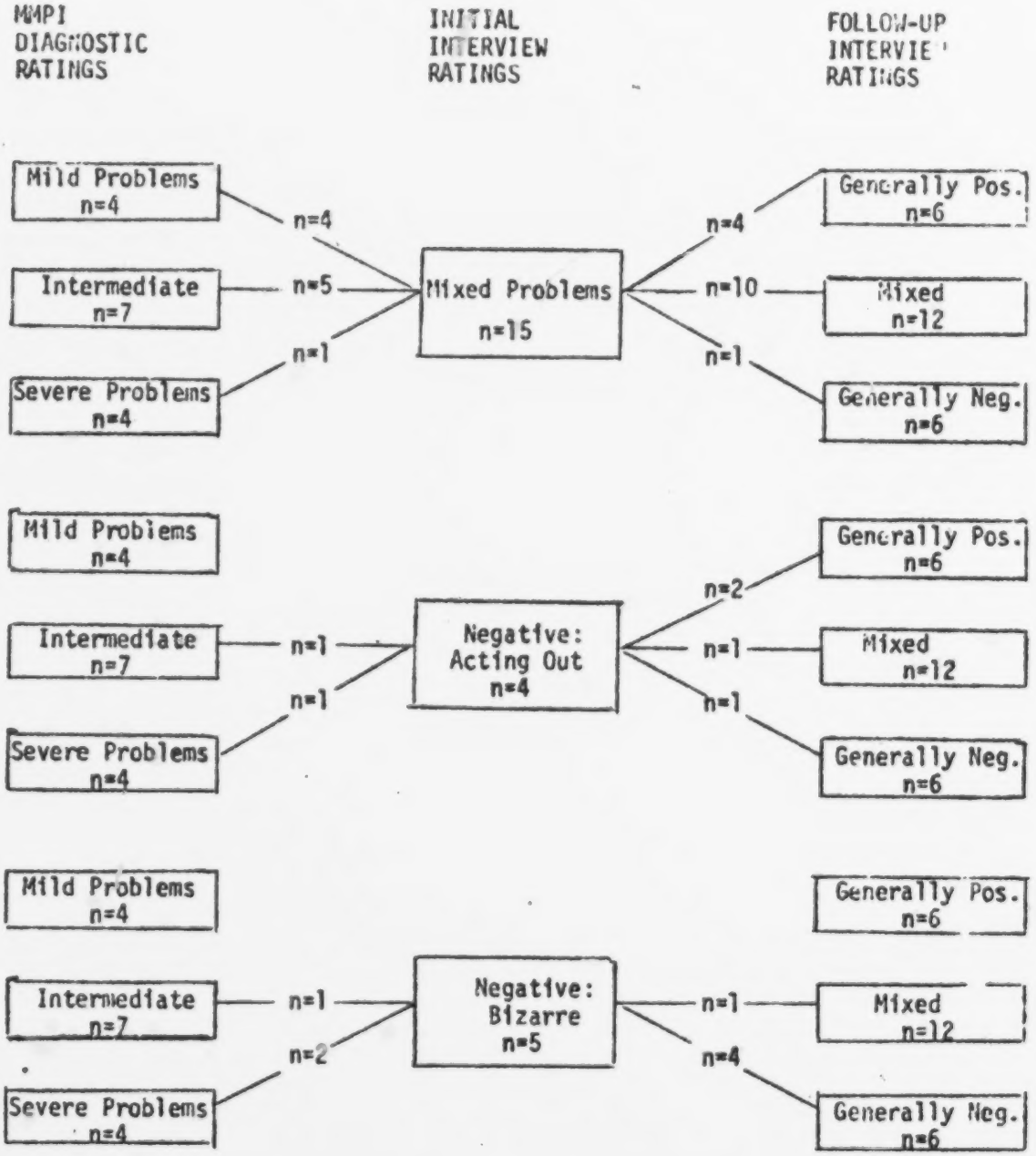
Cluster		Social Competence		Other	
Familial					
Constructive relationships within family	-.46	Peer friendship	-.04	Separation from home	.14
Responsibility/autonomy struggles and family balance	.45	Dating	.18	Frustration-hostility	-.11
Control/counter control in communication	-.05	School achievement	.05	Family openness about sex	-.21
		Career ambition	.09		
		Assertiveness	-.15		

*Taken from Jones, F. A four-year follow-up of vulnerable adolescents, Ph.D. Dissertation, UCLA, 1972.

Paper presented by Michael J. [illegible], Ph.D., UCLA, at APA, Honolulu, Hawaii, 1972.

TABLE 4

DISTRIBUTION OF SUBJECTS FROM INITIAL INTERVIEW THUMBNAIL SKETCH RATINGS OF SEVERITY OF PSYCHOPATHOLOGY TO RATINGS OF SEVERITY OF PSYCHOPATHOLOGY AT FOLLOW-UP BASED UPON FOLLOW-UP INTERVIEW THUMBNAIL SKETCHES AND MMPI DIAGNOSTIC SUMMARY RATINGS*



*Taken from Jones, F. A four-year follow-up of vulnerable adolescents, Ph.D. Dissertation, UCLA, 1972.

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TABLE 5

ADOLESCENT BEHAVIOR PROBLEMS OF GOOD AND POOR PREMORBID SCHIZOPHRENICS FROM RETROSPECTIVE STUDY

Good Premorbids	Poor Premorbids
Major Problem Identified	
Rebelliousness	
(impulsivity, immaturity, defiance of parental wishes, poor judgment)	withdrawal, social isolation (passivity, apathy/achievement of peer relationships)
Specific Problem Areas	
1. Achievement orientation and motivation	
Goods	Poors
lacked academic motivation, showed initiative outside school (seeking jobs, etc.)	conscientious in school, lacked initiative outside school
2. Sociability	
Goods	Poors
displayed confidence and initiative with friends, had many and were adept with them	extreme lack of confidence with friends, had few and rarely sought them out
3. Response to Parental Frustration	
Goods	Poors
active response to parental frustration (yelling, arguing, and active defiance)	passive response (no visible response, withdrawal or yielding
4. Sex and Dating	
Goods	Poors
highly active dating pattern, displaying self-confidence with opposite sex	no self-confidence with opposite sex, very little dating or continuous relationships

Paper presented by Michael J. Goldstein, Ph.D., UCLA, at APA, Honolulu, Hawaii, 1972

TABLE 5 (Continued)

ADOLESCENT BEHAVIOR PROBLEMS OF GOOD AND POOR PREMORBID SCHIZOPHRENICS FROM RETROSPECTIVE STUDY

Specific Problem Areas

Goods	Poors
5. Acting-out Behavior	
predominantly inside home, some alcoholism	predominantly inside home, no alcoholism
6. Psychopathology During Adolescence	
clinically tense, often depressed, few, if any sleep problems, sensitivity to criticism or sense of being watched.	clinically tense, often depressed, continuous sleep problems (insomnia or recurring nightmares), very depressed in response to criticism, expressed feelings of being watched by others

Paper [illegible] Goldstein, Ph.D., UCLA, [illegible] APA, Honolulu, Hawaii, 1972.